



Equipment and Facilities Decontamination and Disposal at Army Ammunition Plants

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Building a Clean & Secure Future

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✓ The Only Proven and Defensible Method to Effectively:

- Desensitize Explosive Contaminants Within Buildings and Equipment
- Decontaminate Production and R&D Equipment/Piping
- Flash (5X) Residual Agent and Energetics in/on Munitions and Materials

Personnel Experience in Explosives Disassembly/ Inspection, Decontamination and Demolition of Load Lines/ Explosives Contaminated Production Buildings

Installation	Load Line/ Building ID	# of Buildings
Completed Contracts		
Cornhusker AAP	Load Lines 1-5	127
	Nitrate/Shop Areas	14
Indiana AAP	Igniter Line 3 & 4	10
	Propellant Charge Line 2-8	63
	D/I of Ship Houses	47
	Black Powder Plant/Powder Prep Area	11
Joliet AAP	Load Line/ Groups-3,61,3A, 2	163
Ravenna	Multiple Load Lines 1,2,3,4,6,8,9,10,11,12	283
	F15/F16 (slab only), CB14B, CB801, CB803, G1, GA1, G3	6
Tooele AD	Bldg 1245	1
BBL, San Jose	Stations 1708,1980, 316, 1950, 0981, 0982, 0571	7
Picatinny Arsenal	Bldg 448 and 452B	2
Lake City AAP	Bldgs in 139 Fuze Line Area	34
Contracts Awarded/ Work In-Progress		
Lake City AAP	Bldg 83	1
Indiana AAP	Rifle Powder Area	59
	Total	828

Ravenna Army Ammunition Plant



Thermal Convection System (TCS)



Spectrum of Target Materials for Decontamination Using TCS

Production Buildings and Structures

3X Scrap Metal

Chemical Agents

Energetics and Unstable Explosives

Biological Agents

Demil of Select Munitions

Process Equipment and Piping

Swaging of Munitions Debris

- ✓ Thermal Decontamination Chamber (TDC) to decontaminate process equipment and items contaminated with Energetics, CWM and Biological Agents.
- ✓ In-Situ Thermal Decontamination of production buildings containing large over-sized equipment contaminated with Energetics, CWM and Biological Agents.

Thermal Decontamination Chamber (TDC)





Pre-Thermal Decontamination



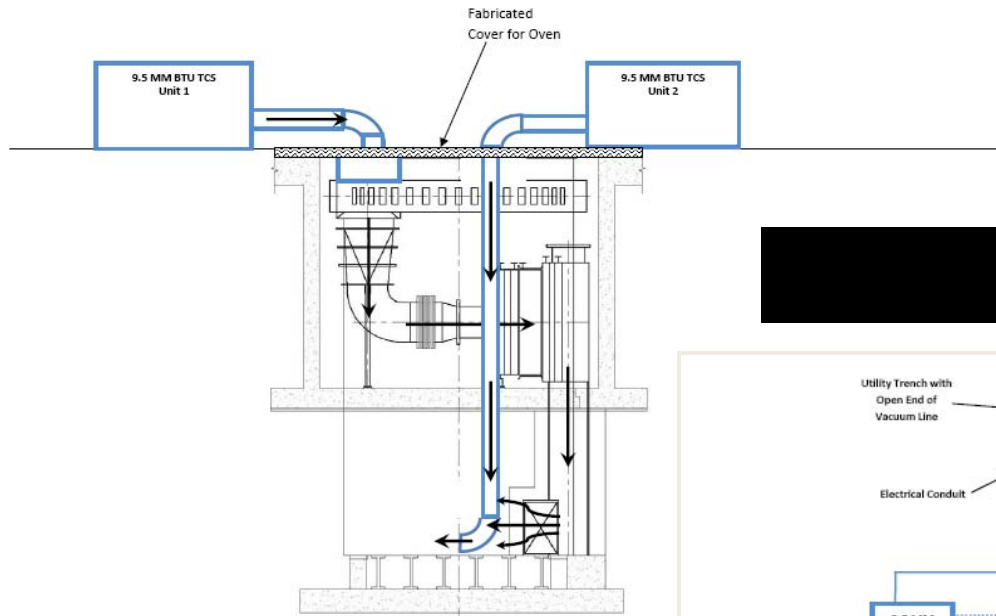
Post-Thermal Decontamination

- ✓ Decontaminate buildings and structures along with their associated equipment, conduits and piping
- ✓ Unique approaches to each structure are required based on the complexity of structures, equipment and the contamination
- ✓ Duration of Thermal Application and Requisite Target Temperatures depend on the contaminant and the material being processed
- ✓ Safety requirements are defined for each thermal decontamination operation

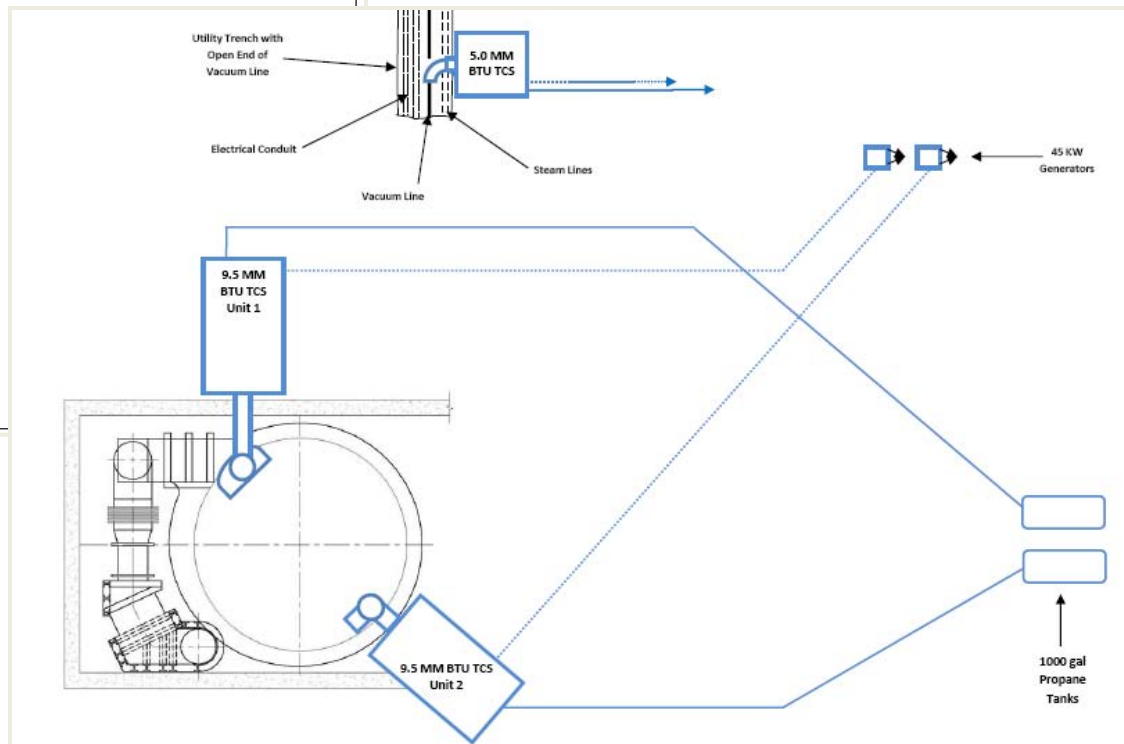
Thermal Decontamination Enclosure for an In-Ground Oven



In-Ground Conditioning Oven



- ✓ **Equipment Layout**
- ✓ **Enclosure Design**



Nitroglycerine/Nitrocellulose Sparge Tanks



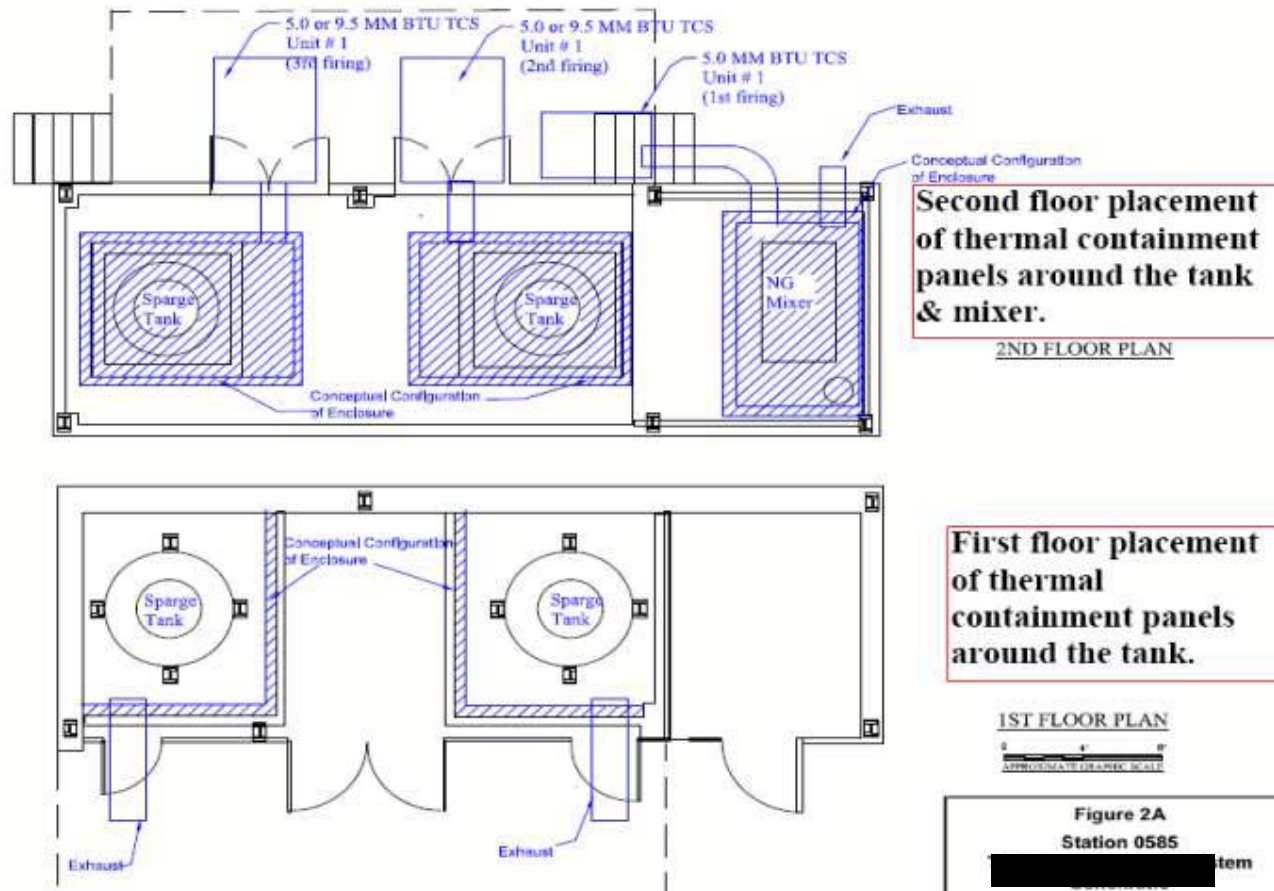
Pre-Thermal Decontamination Site Condition

Nitroglycerine/Nitrocellulose Sparge Tanks



Pre-Thermal Decontamination Site Condition

Nitroglycerine/Nitrocellulose Sparge Tanks



Enclosure Design

Tooele Army Depot



Fort Wingate Depot Activity



TCS Applications at Indiana AAP

✓ PROJECT AREAS:

- Black Powder Production Facility
- Rifle Powder Area
- Load Line 2
- Solvent Recovery Buildings
- Six Miscellaneous Buildings

✓ Project consists of explosive decontamination of buildings, equipment and off-site disposal, disassembly and visual inspection of suspect contaminated buildings to include disposal of contaminated materials, and foundation testing/disposal.



Before



After







Thermal Convection System



Indiana Army Ammunition Plant Building Demolition



Indiana Army Ammunition Plant Before and After



- ✓ **Cornhusker AAP – OB/OD Remediation**
- ✓ **Marine Corps Base-29 Palms**

200hp Remote Control Excavator









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